Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Complex Clinical Cases

REMDESIVIR-INDUCED EXTREME SINUS BRADYCARDIA IN COVID-19

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at https://www.abstractsonline.com/pp8/#!/10461

Session Title: Complex Clinical Cases: FIT Flatboard Poster Selections -- Covid
Abstract Category: FIT: Coronavirus Disease (COVID-19)

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Background: Remdesivir is the only antiviral fully FDA approved drug for the treatment of COVID-19 and has been shown to improve recovery time for severe disease without survival benefit. It inhibits the RNA-dependent RNA polymerase of coronaviruses including SARS-CoV-2. However, it has been occasionally shown to induce bradycardia.

Case: A 53 year-old man with a history of diabetes mellitus type 2 presented with malaise, fatigue, fever for 4 days along with a worsening productive cough. On admission, heart rate was 66bpm, other vital signs within normal limits. He was loaded with remdesivir 200mg IV followed by 100mg IV daily. Simultaneously ivermectin and high dose methylprednisolone were started. Heart rate remained in the sixties for the first three days and on day 4 went to a nadir of 33. Pacer pads were placed on the patient and atropine at the bedside. A differential diagnosis of bradycardia secondary to remdesivir, ivermectin or hypoxia was entertained. Ivermectin was stopped and hypoxia persisted. Echocardiogram revealed ejection fraction of 55-60% with no valvular abnormality or pericardial effusion. Bradycardia persisted with a further nadir of 29. We extended the course of remdesivir due to the latest update, but stopped it on day 7 due to worsening bradycardia. The heart rate recovered over the next 3-7 days and he was successfully discharged home with a stable heart rate in the seventies.

Decision-making: Having stopped ivermectin and with stable hypoxia, we had a top differential of remdesivir-induced bradycardia. Consideration was given to use a dopamine drip to facilitate completion of Remdesivir, but given that 7 days had been completed and the evidence has been controversial for its use we stopped the drug and observed for chronotropic recovery. Heart rate improvement correlated with the half-life of remdesivir and did not recur throughout hospitalization.

Conclusion: Recommendations for the use of remdesivir to treat COVID-19 vary and remain controversial. Prolonged use and high dosages may induce cardiotoxicity manifesting as severe bradycardia. Given that current evidence does not support survival benefit, clinicians should remain mindful of the cardiotoxic adverse effects.